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State of Montana
Office of The Lieutenant Governor
Helena 59601

TED SCHWINDEN
LIEUTENANT GOVERNOR

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The Honorable Thomas L. Judge
Governor of the State of Montana
Capitol Station
Helena, Montana 59601

Dear ~~Governor~~ Judge:

I am pleased to submit to you the final NSF State Science Engineering and Technology Program final project report entitled "A Professional Staff Mechanism for Increasing the Integration of Scientific, Engineering, and Technological Expertise in Montana Executive Branch Policy Making."

This report describes a one year test of a professional staff mechanism for increasing the use of State government scienfitic and technological experitse in gubernatorial decision making and policy formulation. During the year one staff person was assigned to my office to provide assistance in the area of energy and natural resource policy. As the report describes, this test has demonstrated that qualified staff can aid policy makers in understanding and dealing with complex scientific and technological issues.

Sincerely,

Ted

TED SCHWINDEN
Lieutenant Governor

PLEASE RETURN

# A PROFESSIONAL STAFF MECHANISM
for
# INCREASING INTEGRATION OF SCIENTIFIC, ENGINEERING, & TECHNOLOGICAL EXPERTISE IN MONTANA EXECUTIVE BRANCH POLICY MAKING

Presented to Governor Thomas L. Judge

by

GERALD MUELLER

as part of the

NATIONAL SCIENCE FOUNDATION'S

STATE SCIENCE, ENGINEERING AND TECHNOLOGY PROGRAM

October 1979

This paper was supported by and prepared pursuant to the National Science Foundation State Science, Engineering, and Technology Program (Garnt No. ISP 78-01355). Findings, Conclusions, and Recommendations expressed herein do not necessarily reflect the views of the National Science Foundation.

ABSTRACT

The National Science Foundation State Science, Engineering and Technology (SSET) Program is designed to aid the states in increasing the use of scientific and technological expertise in state government policy making. Montana participated in this program by testing a professional staff mechanism for integrating such expertise into state energy and natural resource policy decisions. This mechanism was successful in gubernatorial decisions and policy questions, but did not tap all available scientific and technological expertise and did not reach all state executive branch decision makers.

## INTRODUCTION

In recent times mainstream American society has increasingly looked to science and technology as the ultimate problem solver. Perhaps more than any other event, the spectacular success of the manned space program has convinced the average American that science and technology can overcome the most difficult problems, given sufficient resources and government backing. Today, the response to almost every national challenge is, "If we can put a man on the moon, why can't we ... solve the energy crisis? ... reduce the costs of health care? ... elliminate pollution and poverty?..." Presumably all of these problems would be overcome if we as a nation would only mount a NASA or Manhattan Project type effort.

Politicians have not been insensitive to the ground swell of religious-like faith in science and technology. Faced with the incorporation into the governmental realm of more and more of the responsibilities traditionally reserved for the individual, home, church, and business, politicians welcome the assistance of a "proven" problem solver.

From the perspective of someone unfamiliar with the working of both politics and science and technology, the integration of these two probably appears simple. Politicians should merely hire competent scientists and technicians and then step aside to let these technical experts make decisions. Unfortunately, the world of politics and the world of science and technology are so different that such a simple integration is not possible.

The goal of science is to expand knowledge of man and his universe. Technologists seek to apply the knowledge of science to solve specific, practical problems. In the fields of both science and technology, problems are well-defined and their solutions are verifiable. The basic tool of both is rational, objective analysis, and using this tool the world of science and technology has been carefully constructed and makes steady and measurable progress towards the attainment of the previously stated goal.

Politics often seems the antithesis of science and technology. Rather than seeking to gain and apply knowledge, politics involves the pursuit and application of power. Political scientists describe the basic function of politics as deciding "who gets what, where, and when." Thus politicians are not faced with well-defined problems, but instead with resolving divergent and competing demands for the acceptance of certain values or for the allocation of finite resources. Often the demands are not well understood by those making them. It is no wonderment, therefore, that politics appears illogical and unreasonable in comparison to science and technology.

These fundamental differences are a significant barrier to a successful integration of science and technology into political policy making. Realizing that incorporating scientific and technological expertise into state government policy making would require a significant effort, the federal government established within the National Science Foundation (NSF) a state science, engineering and technology program. This program offered a one-year grant up to $25,000 to each state to test various mechanisms to carry out this integration. The following report describes Montana's experience in attempting to do so.

## MONTANA'S MOTIVATION FOR PARTICIPATION IN THE NSF/SSET PROGRAM

The economy of the State of Montana has historically been based primarily on the exploitation of natural resources, both renewable and non-renewable. In the past this exploitation was largely directed and controlled by outside interests. Along with the wealth generated by the gold, silver and copper mining, timber production, and agricultural land rushes came less desirable "benefits": boom towns, which often rapidly collapsed to ghost towns, and serious social problems and environmental damage.

As America struggles to gain energy independence, in part by shifting to domestic energy sources from foreign oil dependence, Montana faces a new "rush" for yet another mineral resource -- coal. Montana is underlain with some 221 billion tons of coal of which 121 billion tons is estimated to be minable. This 121 billion tons is estimated to be 28 percent of the total U.S. coal reserves.[1] Montana state government is therefore faced with a myriad of issues related to energy development and natural resource management.

As a result, one of the primary challenges to Montana politicians today is to develop mechanisms to control the pace and level of coal development so that national needs can be met and Montana citizens can enjoy the benefits of economic growth, all without despoiling Montana's invaluable environmental heritage. This political problem of balancing who gets what, where and when provides ample opportunity for substantial scientific and technological assistance. A beneficial development of coal which preserves environmental quality will not be possible without addressing complex and technical questions in areas such as strip mine reclamation, air and water emission controls, toxic waste disposal, water allocations, rapid expansion of community services, the social effects of boom towns, etc.

Given this situation, Montana proposed to the National Science Foundation State Science, Engineering and Technology Program (SSET) to test a specific mechanism for improving the utilization of science, engineering and technology in state government energy and natural resource policy formulation.[2]

## SCIENCE AND TECHNOLOGY MECHANISM

The alternative responsibilities and roles which a science and technology (S&T) mechanism might play in state policy formulation, together with possible organizational and administrative options have been summarized in an NSF/SSET publication.[3] Four broad roles, not necessarily mutually exclusive, were identified: coordination, interpretation, conciliation, and performance.

In the role of coordinator, the S & T mechanism would act as a conduit between state policy makers and technical experts. An interpreter would assume the additional duty of attempting to clarify and add perspective to scientific issues, or in other words, would assist politicians in "speaking the language." The conciliation role would assign the S & T mechanism with a filtering or gating responsibility. The conciliator would pass problems to the political decision maker only when they would be ripe for a decision, i.e., when the available information was compiled and properly formated. The fourth role, performer, would "...involve scienfitic and technical resources in active problem solving and in the political process." In effect, this role would bridge the gap so that the S & T mechanism would become a political decision maker.

The organizational approaches available for a science and technology mechanism include: an individual, a council, ad hoc task forces, professional staff, or a consultant. An individual would be, in effect, the science and technology "czar", a difficult role considering the broad range of specialized topics one person would be forced to cover. A council approach could involve a standing committee of experts from government, industry, and the educational system who could represent a range of disciplines. An ad hoc task force would permit the same representation and range of expertise, but would be directed at only one topic. The individual, council, or task force could be full-time state employees hired as professional staff of the Executive Branch or they could be paid or voluntary consultants external to state government.

## MONTANA SSET MECHANISM

In its SSET grant proposal, Montana opted to test a professional staff science and technology mechanism. One professional staff person was to be hired to work in the general area of state energy and natural resources policy. This staff person was to be attached for administrative purposes to the Montana Lieutenant Governor's Office. The decision to test this particular option resulted in part from the Governor's approach to management of Montana's Executive Branch, and in part because of recognition by both the Governor and Lieutenant Governor of two factors critical to a successful effort to increase scientific and technological input to state policy making: 1) access to the decision makers; and 2) knowledge of the organization and function of the Executive Branch departments.

In 1972 Montana's Constitution was substantially revised and now includes the requirement that the Governor and Lt. Governor be elected as a team. Subsequent to their election, Governor Judge assigned to Lt. Governor Schwinden the responsibility of the day-to-day management of a mini-cabinet consisting of the energy and natural resource agencies and for initial formulation of Executive Branch energy and natural resources policy. Final management and policy authority remained with the Governor. The Lt. Governor's Office was staffed with two professionals, one generally working in the area of energy and one in agriculture. The additional SSET staff position permitted a division of responsibility among three professional staff more closely matching that of the individual departments in the mini-cabinet.

The energy work load was split two ways among the Lt. Governor's staff, by specific subject area and by the state and national levels. The SSET staffer assumed the lead on state level energy and resource policy and the specific areas of energy facility siting and planning, electricity and petroleum supply, and air and water quality and solid waste problems. The other energy professional primarily dealt with multi-state and state-federal policy questions and the specific areas including coal mining, coal transportation, reclamation, energy impact assistance, and water availability.

By placing the science and technology facilitation role within professional staff under the direct supervision of the Lt. Governir, continuing access to key political decision makers including the Governor, Lt. Governor, and Executive Branch directors was assured. In addition, the Lt. Governor filled the SSET position with a person with four years experience in a state department. As the resume in Appendix A indicates, this experience included both managerial and interdepartmental coordination experience and a strong scientific background. These qualifications satisfied the second key point needed for a successful SSET effort, knowledge of how the Executive Branch agencies containing scientific and technological expertise operate.

During the one year grant period, the chosen SSET mechanism was tested with a variety of policy questions ranging over several issues and jurisdictions within the Executive Branch. Three such questions will be summarized here:

Balanced Growth

The first example involved multiple issues and all of the departments in the energy and natural resources mini-cabinet. In May of 1978, Governor Judge announced a general policy and planning review within the Executive Branch. This review was to take place in the context of achieving "a state of balanced growth in Montana." "Balanced Growth" referred to the need to achieve economic development while sustaining a high quality of life.

To carry out this effort, all Executive departments were organized into four task forces: Energy, Environment and Natural Resources; Urban and Rural Development; Human Services; and General Government. Each task force consisted of the directors, or their designee, of each department related to the general task force subject area. The Energy, Environment and Natural Resources Task Force included the Departments of Natural Resources and Conservation, Health and Environmental Sciences, State Lands, Fish and Game, Agriculture, and Livestock. Each task force was chaired by a member of the Governor's or Lt. Governor's staff and was assigned one full-time employee as staff support. The SSET person fulfilled the staff role for the Energy, Environment and Natural Resources Task Force.

As the task forces began to meet, their charge was refined into two tasks, one short term and one long term. The short term involved a review of on-going programs and policies in anticipation of the 1979 legislative session. The long term project was an extended, general policy review to determine the state's direction throughout the remainder of the term of the administration.

Program reviews occur regularly as a part of the executive budget process. However, these reviews are generally conducted only by the single department administering the program, the budget office, and the Governor and Lt. Governor. Since programs and policies in one department often directly impact, or conflict with, those of other departments, an attempt was made through the Balanced Growth projects to carry out a more coordinated review. All of the agencies in one task force participated in a review of programs, policies and proposed legislation related to the task force topic area. The task force staff person was responsible for working with the directors and their personnel to assure that a coordinated review did in fact occur.

The Energy, Environment and Natural Resources Task Force proceeded initially by selecting specific topics for consideration and agreeing upon which agency or agencies would address each one. A draft work plan containing the task name, purpose, and agency responsibility was then adopted. This plan appears as Appendix B. The designated agency then prepared for each topic an issue paper which briefly explained the topic issue and why it was significant, proposed alternatives to resolve the issue (e.g., legislation, executive order, department action, etc.) and described necessary actions to implement the alternatives. Once drafted by the agencies, the issue papers were circulated for comments to all members of the task force, and then discussed at a task force meeting. After this review the entire task force decided which of the product issue papers to send to a coordinating committee consisting of the four task force chairmen, the Deputy Director of the Budget Office, the Governor's Executive Assistant, and the Lt. Governor.

This coordinating committee then selected four issues per task force to present for public comment at a series of meetings held throughout the state. The results of the task force efforts and the public meetings which took place during December of 1978, were used to influence the Governor's and department's legislative proposals submitted to the 1979 session of the Montana Legislature.

Examples of topics from the draft work plan of the Energy, Environment, and Natural Resouces Task Force included: energy forecasting, a one-stop environmental permitting process, revisions to the Major Facility Siting Act, an export only policy for coal production in excess of Montana's needs (i.e., shipping coal rather than converting it in Montana and shipping electricity or synthetic fuels), comprehensive state recreation policy, and a state prevention of significant deterioration (PSD) reclassification mechanism consistant with the Federal Clean Air Act requirements. These are some of the topics which could have and did benefit from input from scientific and technological expertise located within the individual departments.

RARE II

Another of the topics considered within the framework of the Energy, Environment and Natural Resources Task Force Balanced Growth effort was

RARE II and Wilderness. RARE II is an acronym for the second Roadless Area Review conducted by the United States Forest Service to determine which roadless and undeveloped areas of the National Forest System should be recommended to Congress for inclusion within the National Wilderness Preservation System. Approximately 4 million acres within Montana were included within the RARE II review.

Wilderness designation places prohibitions or restrictions on certain types of land uses such as logging, mining, grazing, and motorized recreation; hence, RARE II decisions would have a particularly significant and long lasting impact on the economy and environment of Montana. The Governor, therefore, established a Wilderness Committee to review each roadless area and develop specific recommendations regarding wilderness status. The committee was drawn from the technical staff of four executive departments: Natural Resources and Conservation; State Lands; Fish, Wildlife and Parks; Livestock; and the Governor's Office of Commerce and Small Business Development. The committee was chaired by the staff professional in the Lt. Governor's Office responsible for agriculture and land use.

The Wilderness Committee evaluated each of the 171 areas under review on the basis of seven primary variables including: 1) public input; 2) a wilderness rating (WARS); 3) timber potential; 4) mineral potential; 5) wildlife considerations; 6) grazing potential; and 7) an opportunity cost rating (DORS).

In a few areas no conflict between wilderness quality and economic development potential was apparent, and the wilderness or non-wilderness choice was clear. The majority of the areas possessed both wilderness quality and economic resources (e.g., timber, minerals, oil and gas, or grazing potential), and decisions were reached on these areas by a voting process. The committee decisions were in turn reviewed by the five agency heads and then by the Governor before they were finalized and sent to the U.S. Forest Service as Montana's recommendations.

Pacific Northwest Energy Planning Legislation

The third policy question related to Congressional efforts to establish a new Pacific Northwest regional mechanism for electricity planning, conservation, and generation. Since the 1930s when the first of several federal dams were constructed on the Columbia River, the Pacific Northwest has enjoyed an abundance of cheap hydro-electricity. However, the capacity of the hydro-generation system is now being exceeded by the growth in electricity demand resulting from the region's expanding population and economic growth. Additional significant expansion of hydropower in the Columbia River Basin is very unlikely, so some new alternative must be found to meet electricity demands.

In addition to the need to find alternatives to hydro-generation, the fundamental methods of regional energy planning are beginning to change. As more and more rivers have been dammed and large coal-fired and nuclear power plants constructed to supply more electricity, public concern about and op-

position to power projects has increased. Through the passage of state siting and energy planning laws, the population of the region's states has demanded and received a voice in facility planning which previously had been left solely to public and private utilities and the federal government.

Against this background different proposals have been suggested for federal legislation to create a new regional electricity planning system. Two major proposals were offered which would have essentially given the major decision authority to either the utilities or the federal power marketing authority of the Pacific Northwest, the Bonneville Power Administration. Neither of these were consistent with the recent actions of the region's state legislatures to increase public involvement and public accountability of electricity planning. For this reason and others, both proposals were controversial and failed to attract general regional support.

In an effort to protect state prerogatives, increase emphasis on energy conservation, assure public accountability of regional energy planning and policy making, and to develop the necessary consensus to secure Congressional action, the state governments of Idaho, Oregon, Montana, and Washington began negotiations to develop amendments to legislation then before Congress.

The actual negotiations were conducted by the staff of the Governors or in some cases key energy agencies or public service commission personnel. Montana was represented by the SSET staff person from the Lt. Governor's Office and the Administrator of the Energy Division of the Department of Natural Resources and Conservation. Developing four state consensus amendments required close interaction with both the political decision makers including the Governors and agency technical expertise. The technical expertise in areas such as energy facility siting, electricity demand forecasting, power plant financing, electricity rate setting, and conservation and renewable energy sources, was necessary to interpret the practical consequences of the concepts and specific language considered in the discussions.

Intensive negotiations among the states lasted over a three-month period and were successful in developing consensus amendments among four states with widely divergent interests.

Evaluation

The one year trial period has demonstrated that a professional staff mechanism can enhance the use of existing state government scientific and technological expertise in executive branch decision making. The key to the enhancement was the location of scientifically trained individuals familiar with the structure and operation of state government at the Governor's Office level.

These staff professionals did not replace or duplicate either agency technical personnel or agency decision makers. Instead, they created a new path for the flow of technical information and advice. Most state government scientific and technological expertise resides in the smallest subunits of the executive branch, bureaus. The Governor is therefore generally insulated from this expertise by a layer of administrators. This same insulating layer can inhibit interagency scientific and technological communication and effort.

By acting in one or more of the roles of coordinator, interpretor, conciliator, or performer, the professional staff of the Lt. Governor's Office was able to provide a more direct and two-way interactive path between agency technical personnel and top level policy makers. In the Balanced Growth program and policy review, the SSET staffer coordinated the activities of different agency technical staff on behalf of the agency directors. In the RARE II example, the agriculture and land use professional assumed all four roles in leading the multi-agency review and reporting to the Governor and Lt. Governor concerning the committee's progress and its recommendations. Similarly, in the Pacific Northwest electricity planning legislation negotiations, the SSET staff person could work directly with DNRC and the Public Service Commission staff while carrying on the four state negotiations and reporting to the Governor and Lt. Governor. To summarize, the reports, interpretations, and advice of the professional staff allowed the Governor and other top level policy people to make more informed and timely decisions.

While the professional staff mechanism was successful in increasing the input of executive branch agency technical expertise into gubernatorial decisions, not all available expertise has yet been tapped and not all state decision makers have been reached. The Montana State University System contains significant scientific, engineering, and technological expertise which generally does not contribute in any formal way to state policy formulation. Some interchange between agencies and individual university professors and researchers does occur, but not in a continuing, organized manner. State government and the universities are attempting to increase the coordination of their activities through a Ford Foundation grant and in the future more of the university resources may be available to state government decision makers.

Also, Montana law now provides that many crucial state decisions are made by lay boards and not by the Governor or agency directors. For example, decisions on permits for major energy facilities such as electrical generating and synthetic fuel plants are made by the Board of Natural Resources and Conservation and the Board of Health and Environmental Sciences. Both of the boards are connected for administrative purposes to the state departments and have no independent staff. These boards are quasi-judicial and often must make decisions in a contested case format, and because the departments can be parties to the contest case decision, these boards are often legally prohibited from direct use of department technical expertise. Thus, lay boards can be left without technical assistance in evaluating extremely complex scientific, engineering and technical issues. Any attempts to address this situation would require legislative action.

Recommendations

1) The professional staff mechanism should be continued within the energy and natural resources mini-cabinet framework, and expanded to cover other areas such as social services. Staff people hired as a part of this mechanism should have general rather than specialized scientific and technological backgrounds and should be knowledgeable about the structure and operation of the executive branch agencies.

2) An SSET mechanism should be developed to increase the use of the science, engineering and technology expertise of the Montana University System in state policy and decision making. Such a mechanism may be forthcoming from the Ford Foundation study, and the progress and results of this effort should be closely monitored.

3) A task force should be established within the executive branch to review the need for technical assistance to state quasi-judicial lay boards and to identify methods to meet those needs.

# REFERENCES


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   Final EIS on the Federal Coal Management Program
   U.S. Government Printing Office
   Washington, D.C.
   April 1979
   Pages 2-1, 2-2, 2-4

   Department of Interior
   Final EIS on the Proposed Federal Coal Leasing Program
   U.S. Government Printing Office
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   September 1975
   Page 1-43

2. "Science, Technology and Policy Formulation a proposal to National Science Foundation from the State of Montana"
   Office of the Lieutenant Governor
   Helena, Montana
   October 3, 1977

3. Taylor, William C.
   State Science, Engineering and Technology Program,
   Model Plan I: The Use of External Resources
   Paper presented at the National Governors' Association SSET Workshop
   Atlanta, Georgia
   November 3, 4, 1977

APPENDIX A
RESUME

Gerald Harvey Mueller
341 N. Ewing Street
Helena, Montana 59601

Home Telephone 442-9560
Work Telephone 449-3780

Personal: Born - October 1, 1949 at Grand Island, Nebraska
Marital Status - Married, 2 children
Health - Excellent

Education: California State University, Fullerton,
Bachelor of Arts Degree, 1971 (Physics);
Colorado State University, Master of Science Degree,
1974 (Atmospheric Science).

Professional Societies: American Meteorological Society
Air Pollution Control Association

Work Experience:

1/78 to present Program Manager V, Major Facility Siting Act, Energy Planning Division, Montana Department of Natural Resources and Conservation. General responsibility is to plan, organize, and administer the Major Facility Siting Act including developing and recommending implementation and modification of related administrative procedures. I am responsible for the drafting of environmental impact statements, and revising research design and assigned projects of staff members. I also provide the necessary training and supporting materials for the staff; prepares the siting program budget and maintains records on program progress and budgets; interprets policy, coordinates division activities among other state agencies; and performs related duties as required by the Division Administrator and Department Director.

I have also provided advice to the Division Administrator and Department Director concerning energy and siting policy and evaluate and respond to federal legislation concerning these areas.

3/74 to 1/78 Air Analyst, Energy Planning Division, Montana Department of Natural Resources and Conservation. General responsibility is to plan, coordinate, and conduct studies to evaluate the air quality impacts of major energy related facilities (coal fired power plants, coal gasification plants, electric transmission lines, etc.) proposed to be located in Montana. Specific areas of responsibility include atmospheric dispersion modeling, atmospheric chemistry, climatology, and meteorological and ambient air sampling. Other duties have included major pollutant and trace element emission calculations and emission control system evaluation. I have also provided technical assistance to legal council and testified as an expert witness in the air and water quality certification hearing on Colstrip Units 3 & 4.

Because of the interdisciplinary nature of the Energy Planning Division, I have been exposed to a wide range of topics in energy planning. Since about January of 1976 most of my work has been in areas not directly related to air quality. I have participated in transmission route selection, and during a six month period in which the Division had no transmission engineer or economist, I coordinated the economic and engineering need analysis for two transmission line projects. I also provide general advice on siting related matters to the Division Administrator.

I have had general responsibility for coordinating Division activities in administrative hearings and rule making with the Department legal staff. Regarding administrative hearings, I have prepared questions for opposition witnesses, prepared proposed findings of fact and conclusions of law, and aided in preparation of final oral arguments for the hearing. I have had primary responsibility for developing and coordinating staff input into the development of proposed Montana Administrative Code rule changes related to the Major Facility Siting Act. I had primary Division responsibility for drafting proposed amendments to the Major Facility Siting Act during the recent 45th Legislative Session.

I am also responsible for coordinating Division activities related to long range plans filed by potential applicants. These activities include evaluating and coordinating the staff evaluation of long range plans for compliance with the Major Facility Siting Act and Rules.

I have had writing and/or editing responsibility in seven environmental impact statements (see attached list).

9/73 - 3/74 Research Technician, Atmospheric Science Dept., Colorado State University. General responsibility was the analysis of meteorological data for existing research projects.

9/71 - 9/73 Graduate Research Assistant, Atmospheric Science Dept., Colorado State University. General responsibility was to conduct research in ice nucleation and atmospheric dispersion modeling.

December 1977.

APPENDIX B

# SCIENCE, TECHNOLOGY, AND POLICY FORMULATION

a proposal for
State Science Engineering and Technology Program
National Science Foundation

Submitted by
Office of the Lieutenant Governor
State of Montana
Helena, Montana
October 3, 1977


CONTACT:

John S. Fitzpatrick
Deputy Director for Planning and Research
Office of Budget and Program Planning
406 449-3616

Mr. Robert Hall
Executive Assistant
Office of the Lieutenant Governor
406 449-3773

State Science, Engineering and Technology Program

Office of the Lieutenant Governor, State of Montana
Name of Applicant Organization

State Capitol Station, Helena, Montana 59601
Address of Applicant Organization

Science, Technology and Policy Formulation
Project Title

Program Category: [x] Development of [illegible] [ ] Improvement of [illegible]

Amount Requested $25,000

Amount Contributed $13,461

Proposed Duration 12 months, February 1, 1978 - January 31, 1979

Name of Applicant Official Ted Schwinden

Position and Title Lieutenant Governor
State of Montana

ENDORSEMENTS

| | Applicant Official | Project Manager | Administering Financial Official |
|---|---|---|---|
| Name | Ted Schwinden | Robert Hall | Mary Jo Murray |
| Signature | Ted Schwinden | Robert Hall | Mary Jo Murray |
| Telephone | 406-449-3773 | 406-449-3773 | 406-449-3830 |
| Date | October 3, 1977 | October 3, 1977 | October 3, 1977 |

NATIONAL SCIENCE FOUNDATION

# PROJECT SUMMARY

NSF ACCESSION NO.

| NAME OF INSTITUTION (NSF DIRECTORY NAME) | ADDRESS OF INSTITUTION (INCLUDE BRANCH/CAMPUS & COMPONENT) |
|---|---|
| Office of the Lieutenant Governor<br>State of Montana | State Capitol Station<br>Helena, Montana 59601 |
| PRINCIPAL INVESTIGATOR<br>Ted Schwinden | DIVISION (OFFICE) AND DIRECTORATE |
| PROPOSAL NUMBER / FISCAL SERV. | Executive Program |

TITLE OF PROJECT

Science, Technology and Policy Coordination

SUMMARY OF PROPOSED WORK (LIMIT TO 200 WORDS OR 15 TYPED SPECIFIED LINES)

During the past 8-10 years, Montana has implemented considerable legislation designed to promote [illegible] protection and resource management [illegible] as a major site for future energy development. These issues have required the significant application of s/t resources [illegible] of the Lieutenant Governor and the Montana Energy Office has provided the requisite leadership and coordination of s/t resources of energy related issues. However, no such formal mechanism exists for the [illegible]

The applicant will review state statutory requirements and programatic structures to identify areas of agency responsibility, program duplication, ambiguity, and fragmentation, and develop recommendations for executive or legislative action to correct problems therein. Also, the applicant will identify program decision points, identify and prioritize issues where the application of s/t resources would be beneficial and monitor federal policy and legislation for its s/t implications and advise the Governor on such matters.

| PROGRAM APPROVAL | DATE |
|---|---|
| | |

INSTRUCTIONS FOR USE

1. Program Office will complete all items appearing on the first copy, place Proposal Folder copy in the folder; retain Program Suspense copy, and place other copies inside the folder envelope with carbon interleaf.
2. Division of Grants and Contracts will post award number, amount granted and inclusive project dates on copies 3 through 7 and distribute these copies.

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National Science Foundation
from
State of Montana

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OBJECTIVE

The objectives of this proposal are:

(1) To improve coordination between agencies of Montana state government who use sophisticated scientific information in the completion of their legally mandated mission. Accordingly, for Montana this focus will be upon agencies charged with natural resource management, environmental protection, energy development, and economic growth.

(2) To improve the flow of technical information from government agencies and other outside parties to state decision makers, particularly the Governor, who are responsible for formulating policy and drafting implementing legislation.

BACKGROUND

At the present time Montana does not have a comprehensive formal process or procedure which integrates scientific/technical information and interpretation into gubernatorial policy or decision making. The Office of the Lieutenant Governor has assumed a major responsibility in providing the Governor with scientific information in matters related to energy development. In April 1973 an executive order from Governor Judge created the Montana Energy Advisory Council (MEAC). The council, consisting of the department heads from each of Montana's 19 executive departments and later expanded to include elected officials, was chaired by the Lieutenant Governor and staffed by individuals from his office. The mission of the Council included:

1. To advise the Governor and his cabinet regarding the appropriate actions of state government on matters of energy policy and energy development;
2. To coordinate the activities of state government on energy related issues;
3. To serve as an interface between the state and federal government on matters pertaining to energy;
4. To serve as a clearinghouse and coordinator of energy related research being conducted within the state;
5. To serve as a source of public information and energy education to the people of Montana.

The Montana Energy Advisory Council was continued for three years and then upgraded and replaced by the Montana Energy Office. The early work of the Council was considered successful and paved the way for enhancing the status, staff size, and budget of the Energy Office by the 45th Montana Legislative Assembly. The Montana Energy Office has as its mission the:

1. development of a state program for energy conservation;
2. development state program for emergency allocation of energy in the event of shortage;
3. development of a state program maximizing the use of alternative energy resources;
4. liaison with the federal government on energy and resource issues;
5. development of a comprehensive resource and energy program for the State of Montana.

Within the narrow focus of energy development, Montana has developed a productive and successful mechanism for integrating scientific information into the policy and decision making. To be sure, the energy issue is of paramount importance to Montana and other western states who have been richly imbued with an abundance of energy resources. However, other policy areas such as land use planning and subdivision control, air and water quality management, wildlife habitat preservation, forest resource management, and others have not been afforded the opportunity or benefits of an s/t program. The SFIF program offers Montana an opportunity to develop a mechanism primarily for non energy matters, perhaps similar to the Energy Policy Office, which will integrate scientific information into the Governor's policy formulation and implementation process.

WORK PROGRAM

1. Review existing state statutes and program delivery structures of s/t based programs to identify areas of agency responsibility, duplication of effort, problems of agency role ambiguity, and program fragmentation. This review will include the Departments of Natural Resources, Health and Environmental Sciences, Fish and Game, Lands, Agriculture, Livestock, and Community Affairs. The statutes to be reviewed include but are not limited to:

   Montana Constitution (1972) Article IX Environment and Natural Resources
   Montana Environmental Policy Act (69-6501)
   Montana Strip and Underground Mine Reclamation Act (50-1034)
   Strip and Underground Mine Siting Act (50-1601)
   Montana Water Use Act (89-865)
   Moratorium on Yellowstone River basin Appropriations (89-8-103)
   Strip Mined Coal Conservation Act of 1973 (50-1401)
   Montana Major Facility Siting Act (70-801)
   Water Pollution (69-4801)
   Clean Air Act of Montana (69-3904)
   Severence Tax on Coal Production (84-1312)
   Disposal of Coal Severance Taxes (50-1701)
   Property Tax Prepayment for Industrial Facilities (84-41-105)
   Alternative Renewable Energy Sources R&D (84-7407)
   Renewable Resource Development Program (89-3601)
   Resource Recovery Feasibility Study (69-6807)
   State Building Code (69-2110)
   Encouraging Investment in Nonfossil Forms of Energy Generation and Energy Conservation in Building through tax incentives and capital availability (84-7401)

2. Based upon the findings of task Number 1, develop recommendations for executive and legislative action to clarify and systematize agency responsibilities.

3. Identify the policy and decision points in the state program structure and indicate those places in the process which could be strengthened by the use of [illegible]

4. Identify and prioritize the major policy issues where future application [illegible] will be necessary.

5. Continually review federal policy and legislation for its s/t implementing and impact upon the state. Advise the Governor and his cabinet thereof.

PROJECT PERIOD

The final report will be completed within twelve months of project funding. Contingent upon funding, project period to extend from February 1, 1978 to January 31, 1979.

REPORTS

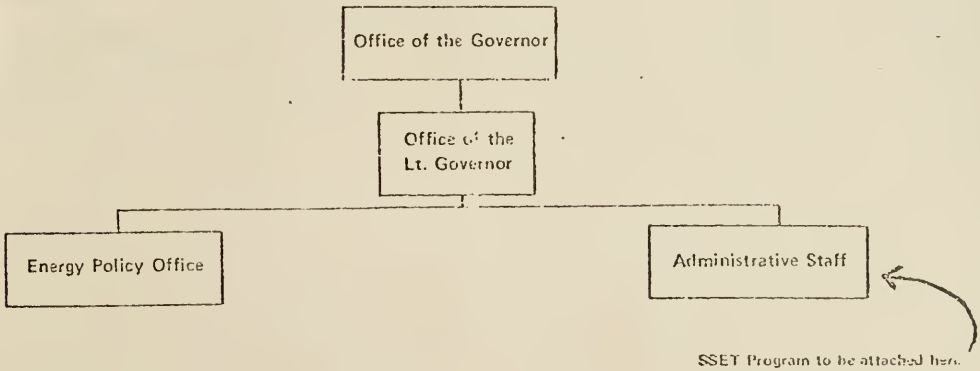
The Office of the Lieutenant Governor will provide NSF with three copies of a quarterly progress report which will describe project progress to date as well as identifying any problems which may interrupt the timely completion of the work program or necessitate changes [illegible]

A final project report will be developed with twenty copies submitted to NSF. This report will also be presented to the Governor and legislature for their consideration in implementing the report recommendations.

APPLICANT ORGANIZATION

The Office of the Lieutenant Governor, administratively attached to the Governor's Office, is the primary coordinating body for state agencies charged with natural resource management, environmental protection, and energy development. The office also has a major responsibility for formulating state policy for implementation by the Governor and State Legislature.

The SSET project will be directly attached to the Lieutenant Governor's administrative staff. See organization chart below.


Office of the Governor
Office of the Lt. Governor
Energy Policy Office
Administrative Staff
SSET Program to be attached here

PERSONNEL

Attached (Appendix I) are the resumes of the Lieutenant Governor (applicant official) and his Executive Assistant (project manager). The SSET staff position will be filled pending funding of the SSET Program application by NSF. A copy of the job description for the SSET staff position is also attached in Appendix I.

State of Montana
Office of The Governor
Helena 59601

THOMAS L. JUDGE
GOVERNOR

October 3, 1977

Mr. Bert Wakeley
SSET Program
Division of Intergovernmental Programs
National Science Foundation
Washington, D.C. 20550

Dear Mr. Wakeley,

It is with great pleasure that I designate the Office of the Lieutenant Governor as the executive branch applicant agency for the State Science, Engineering and Technology Program. For the past five years the Office of the Lieutenant Governor has been a strong force in formulating policy and providing leadership in the area of natural resource development, environmental protection and energy development. The SSET program would be an excellent addition to the existing functions of the office. I look forward to the start of the SSET program and to its contribution to my policy making process.

Attached please find the formal application of Montana executive branch to the SSET program. Thank you for your attention and consideration of this proposal.

Sincerely,

Thomas L. Judge

THOMAS L. JUDGE
Governor

RANN PROPOSAL BUDGET

(Proposal Period: 12 Months)

APPLICANT ORGANIZATION: Office of the Lieutenant Governor, State of Montana

A. SALARIES AND WAGES (Indicate time to be devoted to this project).

| | Person-months of effort | Estimated Project Costs ($) NSF | Contributed | Total |
|---|---|---|---|---|
| 1. Senior Staff (Itemize) | | | | |
| Project Manager | 3 months | $ 0 | $ 5,418 | $ 5,418 |
| 2. Other Professional (Itemize, Staff or Consultants | | | | |
| SSET Staff Analyst | 12 months | 18,918 | 0 | 18,918 |
| 3. Clerical & Technical Staff (Itemize) | 3 months | 0 | 3,530 | 3,530 |
| Subtotal | | $18,918 | $ 8,948 | $27,866 |
| B. STAFF BENEFITS (If Charged as Direct Costs) (12%) | | $ 2,459 | $ 1,163 | $ 3,622 |
| C. TOTAL SALARIES, WAGES, AND STAFF BENEFITS (A plus B) | | 21,377 | 10,111 | 31,488 |
| D. EXPENDABLE EQUIPMENT AND SUPPLIES (Itemize) | | | | |
| Paper, typewriter ribbons, adding machine tapes, pen & pencils and miscellaneous office supplies | | 0 | 120 | 120 |
| E. TRAVEL (Domestic Only) (Itemize) | | | | |
| 1 out-of-state trip - 2 persons | $1,000 | | | |
| 1 out-of-state trip - 1 person | 500 | | | |
| 20 days of in-state travel at $50.00 per day | 1,000 | 2,000 | 500 | 2,500 |
| F. PUBLICATION COSTS | | 323 | 0 | 323 |
| G. OTHER COSTS (e.g., Subcontracts, etc. - itemize) | | | | |
| Office space - 150 sq. ft. - $700 | | | | |
| Communications: telephone, postage, messenger service - $780 | | | | |
| Contracted Services - $1,300 | | 1,300 | 1,480 | 2,780 |

| | | Estimated Project Costs ($) | | |
|---|---|---|---|---|
| | | FSA | Contributed | Total |
| H. | TOTAL DIRECT COSTS (C through G) | 25,000 | 12,211 | 37,211 |
| I. | INDIRECT COSTS (Federally Established Indirect Cost Rate of 5% of line H) | XXXX | 1,250 | 1,250 |
| J. | TOTAL COSTS (H plus I) | $25,000 | $13,461 | $38,461 |